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Ex. 6 - Personal Privacy

June 8, 2012

By email

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Re: Input on Riparian Rule Alternatives

Dear Peter and Marganne:

Please accept these written comments on the Department's approach to the Draft Range of Alternatives to be considered by the Board at the July meeting. Much of the content here reiterates and clarifies input made orally by me and/or others at the last two stakeholder meetings. I do not repeat all of my input made in person nor do I comment on every aspect of the draft documents you have shared.

1. Re: Rule Objective and Relevant Information

The Board has approved the following rule objective: "Establish riparian protection measures for small and medium fish-bearing streams that maintain and promote shade conditions that insure, to the maximum extent practicable, the achievement of the Protecting Cold Water criterion."

>Non-shade forestry impacts on stream temperature are relevant in alternative design and analysis. Staff has indicated that because the objective describes the key variable we are trying to effect as shade that the relevant science is considered to be limited to studies that relate to shade. However, as we see it, all information going to forestry impacts on stream temperatures in small and medium streams still is relevant.

In particular, we are concerned that measures taken on small and medium F streams only can never be fully effective to meet the PCW on the forested landscape due to both shade and non-shade related impacts emanating from the large portion of the Type N network that is subject to industrial logging, especially depletion of large wood and concomitant alteration of the sediment and flow regimes¹. Any analysis that does not acknowledge some temperature

¹ Peakflows in smaller watersheds are also prone to elevation by logging (MacDonald and Coe, 2007). Studies

impact from current headwater management practices ignores best available science cannot accurately describe the level of protection actually being provided.

2. Policy Issues and Methods

We agree that:

- ∞ All alternatives should be derived from the objective to be achieved, and understanding of science showing current deficiency
- ∞ Any alternative must at least maintain current standards for other riparian functions
- ∞ Alternative analysis should include information on the confidence that an alternative will meet the standard. The measure of confidence could be qualitative

These statements should be considered and adopted by the board as part of the approach to the rule alternatives.

>Re: unintended consequences and stakeholder input regarding stream shade and primary productivity. The draft staff report created a heading under Policy comments/questions that listed a stakeholder concern that an unintended consequence of this rule would be too much shade that harms fish due to suppressed primary productivity. We suggest that input like this which questions the validity of the PCW criterion and the rule objective itself (which has already been approved) are out of order and should be displayed separately from statements about how alternatives should be developed and analyzed. Perhaps under the category of “stakeholder input the response to which is beyond the scope of this rulemaking” or simply “stakeholder concerns”?

>Additionally, the Department’s policymaking approach should explicitly strive to be consistent with TMDL shade targets. We urge the Department to make a strong link between this rulemaking and the concepts and metrics implicit in Oregon’s many approved TMDLs for temperature-impaired streams. The essential finding of these watershed-based analyses is that in order to prevent anthropogenic warming, “system potential effective shade” (which varies by subwatershed) must be maintained within some size of riparian buffer on all streams to which the standard applies, i.e. all perennial streams. In water bodies with TMDLs, system potential effective shade has been determined and compared with current conditions. These analyses have consistently found current riparian conditions are substantially below system potential effective shade on impaired water bodies.

While we realize that this rulemaking does not target only streams that violate the numeric criterion such as the TMDLs were developed to address, these rules will nonetheless apply in

consistently demonstrate that logging elevates peakflows in smaller watersheds (MacDonald and Ritland, 1989; Bowling et al., 2000). Smaller watersheds often have a greater percentage of their watershed area recently logged, causing greater peakflow increases and significant impacts that propagate downstream. Some channel types in headwaters are highly vulnerable to increased channel erosion caused by peakflow elevation (Rosgen, 1996). Elevated erosion in headwater channels increases downstream sediment transport and sedimentation in downstream fish habitats (Montgomery and Buffington, 1998).

these basins. As the statutorily designated lead regulator of forest practices which are intended to meet water quality standards, logical public policy dictates that ODF's rules should strive for rules that are demonstrably adequate to meet the temperature load allocations for forestry in these basins – i.e. a load allocation of zero nonpoint-source induced warming. This means aspiring to “site potential effective shade” where it has been determined and/or ensuring no depletion of existing effective shade.

For these reasons, we strongly agree with NWEA that it seems premature to be suggesting any specific alternatives (configurations of buffers widths etc.) until DEQ runs several context-setting management scenarios through the Mid Coast model and other relevant models. We further agree that all alternatives should be evaluated for their consistency with TMDLs completed to date, including the load allocations given to nonpoint sources. It seems prudent for all alternatives to assume a forestry load allocation of zero. This is not only consistent with TMDLs developed to date, it will avoid reliance on the natural conditions criterion that seems very likely to be stricken in ongoing legal wrangling.

>ODF must factor into all alternatives warming caused by non-fish streams. There is no level of protection that can be provided on just the fish-bearing portion of the network that obviates the need to address warming on non-fish streams. Some assumption about the warming impact that is caused by logging on the Type N network should be part of the analysis of all alternatives.

>Informational basis for establishing the adequacy of no-cut buffers. While RipStream data can and should be used to inform the question of what constitutes adequate riparian forest retention to prevent shade reduction and stream warming, other sources should also be consulted. For example, I am attaching an annotated bibliography prepared by EPA staff that reviews several original studies. Figure A-1 has generated a curve from a number of studies to illustrate the relationship between buffer size and percent shade reduction. (e.g. indicates that in order to avoid a reduction in shade of more than about 2.5%, about a 100 foot buffer is needed).

3. Comments Re some of the Specific Draft Alternatives that have been discussed

∞ *No action – maintain existing rule standards*

The Board has essentially already determined that, based on the RipStream study “no action” is not a viable alternative. However, we agree that this alternative should be fully evaluated for its efficacy using the same additional analytical tools which will be applied to the other alternatives in order to establish a basis for comparison with action alternatives. Specifically, as discussed at the stakeholder meeting on June 6 at DEQ, we strongly urge the Department to evaluate this and every other alternative using the DEQ's stream temperature model because this is the best available analytical tool for assessing the sufficiency of management practices to prevent anthropogenic stream warming and meet the PCW Criterion.

∞ *Characterize FPA (private) RipStream sites that met Protecting Cold Water (PCW) standard.*

It is appropriate to use the wealth of RipStream data to inform this process, but we urge caution in relying entirely on the range of conditions on the individual harvest units appearing in the RipStream study that met PCW to generate a riparian protection rule applicable across the private forest landscape. It would seem that there is a difference between simply describing the conditions associated with no detectible stream warming from a collection of single harvest units in various locations and those required to ensure that stream warming is prevented across a watershed or georegion. I look forward to learning more about how the RipStream data will be used to generate this alternative. In particular, I am interested in how the range of compliant prescriptions will be reduced to rule metrics and how the role played by factors such as the length of stream actually included in the unit, unit size etc. will be factored in.

- ∞ *Increased Retention RMAs (standard target) AND Increased No-cut buffer width RMAs AND increased RMA should be an alternative*

The Board's early draft outlined three separate alternatives in which 1) increased retention will be required without any change to the existing no cut width; 2) the no cut is increased, OR 3) the RMA is made bigger. We have no objection to evaluating these three approaches separately as long as there is a basis to find at the outset that each approach alone has a chance of being effective to meet the PCW criterion -- the no action is already our straw man that we know won't work so we don't need another one. However, there should also be an alternative in which the basal area retention minimums, the no cut area and RMA are all three increased as well as some combination of two of these three changes.

- ∞ *At least one alternative should use an RMA width equivalent to the height of one site potential tree (mature forest, e.g. 160 years or older (IMST, 1999)).*
- ∞ *Outside no-harvest areas in variable retention RMA alternatives, largest trees closest to streams should be required to be left first.*
- ∞ *50-foot no cut buffer.*

This buffer, alone, without an outer managed RMA with retention standards would likely not be adequate to prevent stream warming based on existing literature and recent monitoring of 50 foot buffers efficacy on small nonfish perennial streams in Washington state.

- ∞ *Alternatives that propose to decrease existing active management targets as a "swap" for increased standard targets should not be presented to the Board*

Reducing active management targets is not an action that relates to the rule's objective (to prevent stream warming from shade reduction) and changes to these targets opens up the question of the basis and efficacy for the existing active management targets, which seems certain to divert time and resources. We are concerned about whether the active management targets deserve a re-examination with regard to their consistency with the Department's water quality protection obligations, but in light of the minimal extent to which they are believed to

be used we suggest that staff ditch this alternative and identify AM targets as an issue but sidebar it for future examination.

∞ *Alternatives that propose increased stream protection on south versus north side of streams*

This is a site-specific approach that is intended to allow maximum tailoring of protections to meet the PCW with minimal loss of management options to landowners. We have no objection to this kind of approach in principle, but if something like this is proposed it must be as an alternative practice that is offered in addition to a default practice, and there would need to be included in the rule a standard protocol for the data and analysis required to demonstrate the adequacy of the proposed alternative plan. We would need to know more about how such an alternative would be analyzed for its sufficiency, as well how it would be fairly implemented and enforced to support it.

∞ *State Forest Management Plan Alternatives*

The riparian protection measures currently applied to state forestlands should be evaluated as an alternative.

∞ *Consider leaving largest trees, trees closest to the stream.*

We encourage the Department to consider alternative ways of directing vegetative retention in addition to widths and conifer basal area. For example, there could be a requirement that in the managed portions of buffers that basal area requirements be met using the largest trees AND those closest to the stream first.

∞ *Apply Washington state shade adequacy methodology*

We support the evaluation of an alternative based on Washington's approach. Staff has noted the need for further research to accurately state this alternative. I suggest that staff consult with Mark Hicks [mhic461@ECY.WA.GOV] and/or Stephen Bernath of Washington Department of Ecology [SBER461@ECY.WA.GOV]

We note that the exact increment of riparian protection provided in service of shade objectives in Western Washington is not simple to tease out because temperature regulation is subsumed by the protection provided for large wood. However, we are given to understand that from 85-90 feet of the approximately 1 site potential tree height Washington westside riparian buffer (50 feet of which is a no-cut buffer) is considered to approximate the temperature component. (On the eastside in Bull Trout overlays, all available shade within 75 feet is the operative standard).

∞ *Alternative Reflecting DEQ WOPR Model Run*

We strongly agree that there is a strong basis for using a 150 foot buffer in system potential vegetation as the basis of at least one alternative given the Oregon DEQ model run for Canton

Creek of the BLM's Western Oregon Plan Revision alternatives. We note that this model accounted for natural disturbances in establishing system potential and that 100 foot buffers were not adequate to prevent exceedances of TMDL load allocations.

Concluding Thought: If current rules were adequate to provide riparian and upstream sources of large wood, we wouldn't need to worry about shade and stream temperature.

Long-term LWD recruitment is arguably the one key function that ultimately determines the width of buffers on fish streams. Channels need large wood to form fish habitat, and help mitigate for bed scouring flows. If that one key function can be met (which means at least 2/3 and up to a full site potential tree height) ALL other key riparian functions will also be met by default, including shade/ temperature, nutrient cycling, bank stability, erosion control, filtering sediment, etc. LWD also provides a key function in non-fish bearing headwater streams as it serves as a sediment retention mechanism. Without it, sediment is flushed directly downstream to fish-bearing reaches.

I note that this thought is consistent with the flaws identified by NMFS and EPA in the BLM's ill-fated Western Oregon Plan revision and the criticism leveled at Oregon by EPA, NMFS and USFWS in their February 2001 review of the Stream Temperature Sufficiency Analysis.

Thanks for considering this input,

A handwritten signature in black ink, appearing to read 'Mary Scurlock', with a large loop and a long horizontal stroke.

Mary Scurlock

Cc: Nina Bell, NWEA

Bob Van Dyk, WSC

Paul Engelmeyer, NFS

John Persell, PRC